

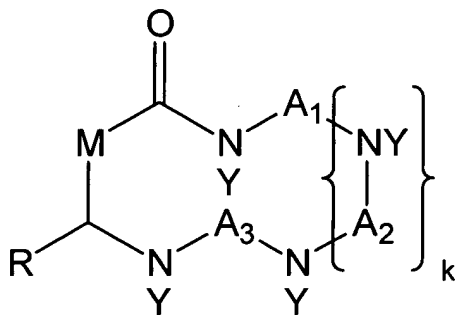
## AMENDMENTS

### In the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

### Listing of claims:

Claim 1. (Original): A compound of the formula



wherein A<sub>1</sub>, each A<sub>2</sub> (if present), and A<sub>3</sub> are independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

wherein each Y is independently selected from H or C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein M is selected from C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein k is 0, 2, or 3;

and wherein R is selected from C<sub>1</sub>-C<sub>32</sub> alkyl;

and all stereoisomers and salts thereof.

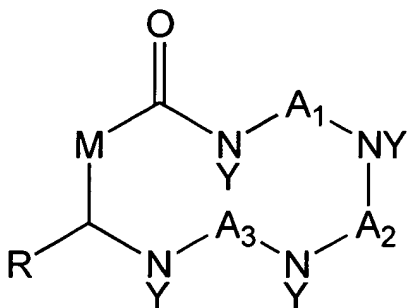
Claim 2. (Original): A compound according to claim 1, wherein each Y group is -H.

Claim 3. (Original): A compound according to claim 1, wherein each Y group is -CH<sub>3</sub>.

Claim 4. (Original): A compound according to claim 1, wherein A<sub>1</sub>, each A<sub>2</sub> (if present), and A<sub>3</sub> are independently selected from C<sub>2</sub>-C<sub>4</sub> alkyl.

Claim 5. (Original): A compound according to claim 1, wherein M is -CH<sub>2</sub>-.

Claim 6. (Original): A compound of the formula



wherein A<sub>1</sub> and A<sub>3</sub> are independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

wherein A<sub>2</sub> is independently selected from C<sub>1</sub>-C<sub>3</sub> alkyl or C<sub>5</sub>-C<sub>8</sub> alkyl;

wherein each Y is independently selected from H or C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein M is selected from C<sub>1</sub>-C<sub>4</sub> alkyl;

and wherein R is selected from C<sub>1</sub>-C<sub>32</sub> alkyl;

and all stereoisomers and salts thereof.

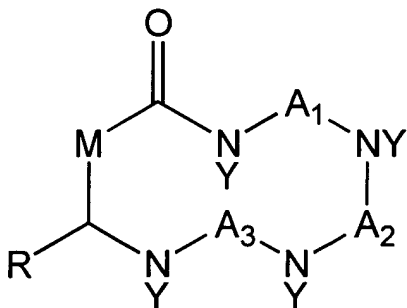
Claim 7. (Original): A compound according to claim 6, wherein each Y group is -H.

Claim 8. (Original): A compound according to claim 6, wherein each Y group is -CH<sub>3</sub>.

Claim 9. (Original): A compound according to claim 6, wherein A<sub>1</sub> and A<sub>3</sub> are independently selected from C<sub>2</sub>-C<sub>4</sub> alkyl, and A<sub>2</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>3</sub> alkyl and C<sub>5</sub> alkyl.

Claim 10. (Original): A compound according to claim 6, wherein M is -CH<sub>2</sub>-.

Claim 11. (Currently amended): A compound of the formula



wherein A<sub>1</sub> and A<sub>3</sub> are independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

wherein A<sub>2</sub> is independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

~~wherein each Y is independently selected from H or C<sub>2</sub>-C<sub>4</sub> alkyl;~~

wherein each Y is independently selected from C<sub>2</sub>-C<sub>4</sub> alkyl;

wherein M is selected from C<sub>1</sub>-C<sub>4</sub> alkyl;

and wherein R is selected from C<sub>1</sub>-C<sub>32</sub> alkyl;

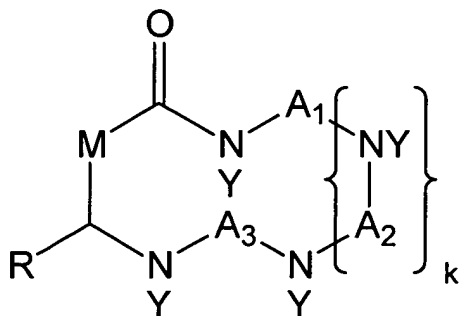
and all stereoisomers and salts thereof.

Claim 12. (Original): A compound according to claim 11, wherein each Y group is -H.

Claim 13. (Original): A compound according to claim 11, wherein A<sub>1</sub> and A<sub>3</sub> are independently selected from C<sub>2</sub>-C<sub>4</sub> alkyl, and A<sub>2</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>5</sub> alkyl.

Claim 14. (Original): A compound according to claim 11, wherein M is -CH<sub>2</sub>-.

Claim 15. (Withdrawn): A method of synthesizing a compound of the formula



wherein A<sub>1</sub>, each A<sub>2</sub> (if present), and A<sub>3</sub> are independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

wherein each Y is independently selected from H or C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein M is selected from C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein k is 0, 2, or 3;

and wherein R is selected from C<sub>1</sub>-C<sub>32</sub> alkyl;

comprising the steps of:

B1 reacting an ω-halo alkyl alkanoate with an aldehyde or ketone-containing compound to give an alkene-containing alkanoate compound;

reacting the alkene-containing alkanoate compound with a compound containing two primary amino groups and optionally containing secondary amino groups to effect addition of one of the amino groups across the double bond;


cyclizing the other amino group with the alkanoate group to form an amide bond; and optionally alkylating the secondary amino groups if present.

Claim 16. (Withdrawn): The method of claim 15, wherein the ω-halo alkyl alkanoate is ethyl bromoacetate.

Claim 17. (Withdrawn): The method of claim 16, wherein the aldehyde or ketone-containing compound is an aldehyde-containing compound.

Claim 18. (Withdrawn): The method of claim 16, wherein the step of reacting an  $\omega$ -halo alkyl alkanoate with an aldehyde or ketone-containing compound to give an alkene-containing alkanoate compound is performed by reacting the  $\omega$ -halo alkyl alkanoate with triphenylphosphine.

Claim 19. (Withdrawn): The method of claim 16, wherein the compound containing two primary amino groups is selected from the group consisting of  $H_2N-A_1-(NH-A_2)_k-NH-A_3-NH_2$  wherein  $A_1$ , each  $A_2$  (if present), and  $A_3$  are independently selected from  $C_1-C_8$  alkyl and  $k$  is 0, 2, or 3.

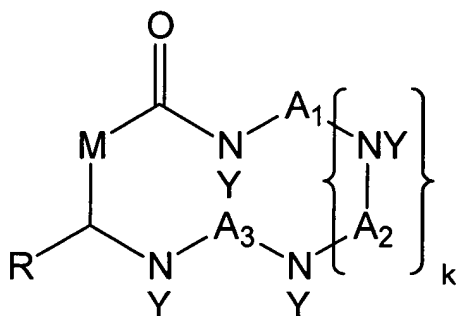
 Claim 20. (Withdrawn): The method of claim 19, wherein the compound containing two primary amino groups is selected from the group consisting of spermine, spermidine, and putrescine.

Claim 21. (Withdrawn): The method of claim 16, wherein the step of cyclizing the other amino group with the alkyl alkanoate group to form an amide bond is performed by reacting the compound with antimony (III) ethoxide.

Claim 22. (Withdrawn): The method of claim 16, wherein the step of optionally alkylating any secondary amino groups if present is performed by reacting the compound first with an aliphatic aldehyde to result in a Schiff base, then reducing the Schiff base, resulting in alkylation of the secondary amino groups.

Claim 23. (Withdrawn): The method of claim 22, wherein the step of reducing the Schiff base is performed by using the reagent  $NaCNBH_3$ .

Claim 24. (Withdrawn): A method of synthesizing a compound of the formula



wherein A<sub>1</sub> is C<sub>3</sub> alkyl, and each A<sub>2</sub> (if present) and A<sub>3</sub> are independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

wherein each Y is independently selected from H or C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein M is selected from C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein k is 0, 2, or 3;

and wherein R is selected from C<sub>1</sub>-C<sub>32</sub> alkyl;

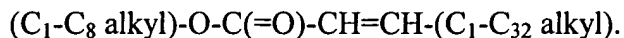
comprising the steps of:

condensing a compound comprising a primary amino group and a hexahydropyrimidine moiety with an  $\alpha,\beta$ -unsaturated ester compound such that the primary amino group adds at the  $\beta$ -position of the unsaturated ester compound, whereby the primary amino group is converted to a secondary amino group;

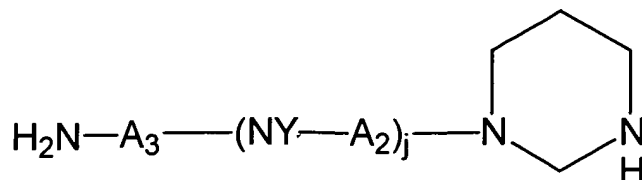
cleaving the methylene bridge of the hexahydropyrimidine moiety to generate a secondary amino group and a newly-generated primary amino group; and

condensing the newly-generated primary amino group with the ester group to form an amide group.

Claim 25. (Withdrawn): The method of claim 24, wherein the  $\alpha,\beta$ -unsaturated ester is of the formula



Claim 26. (Withdrawn): The method of claim 24, wherein the compound comprising a primary amino group and a hexahydropyrimidine moiety is of the formula



wherein each A<sub>2</sub> (if present) and A<sub>3</sub> are independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl;

wherein each Y is independently selected from H or C<sub>1</sub>-C<sub>4</sub> alkyl; and

wherein j is 0, 2, or 3.

Claim 27. (Withdrawn): The method of claim 26, wherein j is 0.

Claim 28. (Withdrawn): The method of 27, wherein A<sub>3</sub> is C<sub>4</sub> alkyl.

B1  
Claim 29. (Withdrawn): The method of 24, wherein the step of cleaving the methylene bridge of the hexahydropyrimidine moiety is performed with anhydrous HCl in an alcoholic solvent.

Claim 30. (Withdrawn): The method of 24, wherein the step of condensing the newly-generated primary amino group with the ester group to form an amide group is performed with the reagent B(N(CH<sub>3</sub>)<sub>2</sub>)<sub>3</sub>.

Claim 31. (Withdrawn): A method of treating cancer or a disease characterized by uncontrolled cell proliferation in an individual in need of such treatment, comprising the step of administering one or more compounds of claim 1.

Claim 32. (Withdrawn): A method of treating cancer or a disease characterized by uncontrolled cell proliferation in an individual in need of such treatment, comprising the step of administering one or more compounds of claim 6.

Claim 34. (Withdrawn): A method of depleting ATP in a cancerous cell, comprising the step of administering one or more compounds of claim 1 to the cell.

Claim 36. (Original): A method of depleting ATP in a cancerous cell, comprising the step of administering one or more compounds of claim 11 to the cell.

The diagram shows a chemical structure of a substituted 1,3,5-triazine derivative. The central ring consists of three nitrogen atoms (N) and three carbon atoms (M). The substituents are labeled as follows: R is attached to one of the carbon atoms (M); Y is attached to one of the nitrogen atoms (N); and X is attached to the other carbon atom (M) via a chain of atoms A4 and A1. The structure also includes a bracketed repeating unit k, which contains a nitrogen atom (N) attached to A2 and A3, and a carbon atom (NY) attached to A1 and A2.

wherein A<sub>4</sub> is selected from C<sub>1</sub>-C<sub>8</sub> alkyl or a nonentity;

Z is selected from the group consisting of an amino protecting group, an amino capping group, an amino acid, and a peptide;

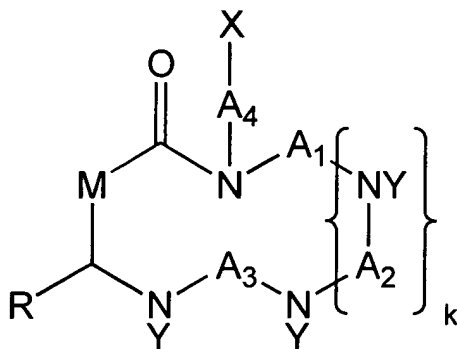


and all stereoisomers and salts thereof.

Claim 39. (Original): The compound of claim 38, wherein M is -CH<sub>2</sub>-, k is 1, A<sub>1</sub> and A<sub>3</sub> are -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-, and the single A<sub>2</sub> group is -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-.

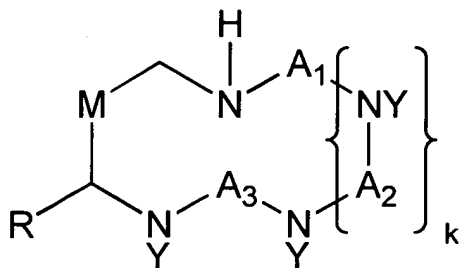
Claim 41. (Original): The compound of claim 37, wherein A<sub>4</sub> is C<sub>1</sub>-C<sub>8</sub> alkyl, X is -NHZ, and Z is selected from one of the 20 genetically encoded amino acids, a peptide of the formula acetyl-SKLQL-, a peptide of the formula acetyl-SKLQ-β-alanine-, or a peptide of the formula acetyl-SKLQ-.

Claim 42. (Withdrawn): A method of synthesizing a compound of claim 37, wherein A<sub>4</sub> is a nonentity and X is -H, comprising reducing the carbonyl of the amide group of a compound of the formula



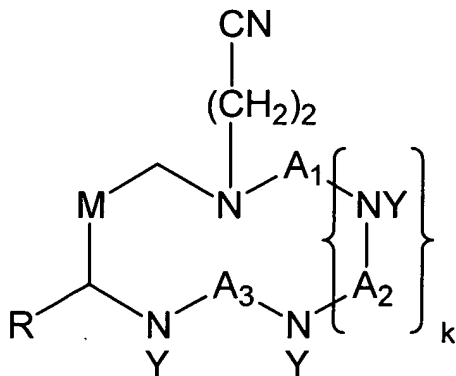
wherein  $A_4$  is a nonentity and X is -H.

Claim 43. (Withdrawn): A method of synthesizing a compound of claim 37, wherein  $A_4$  is  $C_2$  alkyl, each Y is selected from  $C_1$ - $C_4$  alkyl, and X is -CN, comprising reacting a compound of the formula



wherein each Y is selected from  $C_1$ - $C_4$  alkyl, with a compound of the formula  $\text{H}_2\text{C}=\text{CH}-\text{CN}$ .

Claim 44. (Withdrawn): A method of synthesizing a compound of claim 37, wherein  $A_4$  is  $C_3$  alkyl and X is  $-\text{NH}_2$ , comprising reducing the nitrile group of a compound of the formula



to an amino group.